

Mystery Data

Reporting Category Probability and Statistics

Topic Graphing

Materials

- Envelopes
- Stick-on colored dots (blue, green, yellow, purple, red)
- Small pieces of paper
- Construction paper
- Markers

Vocabulary

data, mean, median, mode, range

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Prepare sets of five envelopes, each with a different colored dot on it. Give each student a set of envelopes and five small pieces of paper. Ask students to write numerical answers to each of the following questions on separate pieces of paper.
 - What is your height in inches? (Put answer in the envelope with the blue dot.)
 - On what day of the month (number) is your birthday? (Put answer in the envelope with the green dot.)
 - What is the total number of letters in your whole name—first, middle, and last? (Put answer in the envelope with the yellow dot.)
 - What is the age, or approximate age, of one adult that lives in your home? (Put answer in the envelope with the purple dot.)
 - What is your favorite two-digit number? (Put answer in the envelope with the red dot.)
2. Have students form five cooperative learning groups. Have each group collect all their responses and hand them to you. Divide all student responses into five large, color-coded envelopes.
3. Give each group one of the large envelopes, and have each group use the data and markers to create a stem-and-leaf plot on a large sheet of construction paper. The stem-and-leaf plot will not have a title. Each group should find the mean, median, mode, and range of the data and include that information on their plot.
4. Display the stem-and-leaf plots along with five graph titles on sentence strips. Have students identify which title each plot represents.

Assessment

- **Questions**
 - How can you use the mean, median, mode, and/or range to help you decide which title goes with which graph in the mystery data lesson?
 - What are some other types of data that can be displayed in a stem-and-leaf plot?
- **Journal/Writing Prompts**
 - Explain how a stem-and-leaf plot can be used to organize data.
 - Explain the difference between the type of data in a stem-and-leaf plot and the type of data in a line graph.
- **Other**
 - Create a survey question that can be displayed in a stem-and-leaf plot. Collect data from the class and present it in a stem-and-leaf plot.
 - Remove the title from some stem-and-leaf plots. Have students work with a partner to match titles to the stem-and-leaf plots. Have them write an explanation of how they matched them.

Extensions and Connections (for all students)

- Have students throw cotton balls and measure the distance in inches. Record the data in a stem-and-leaf plot.